INTERVIEWER: Moving on to ALOC, earlier you mentioned that while you were working at Delta, you were able to establish an economic air line of communications (ALOC) between Chicago and several southern cities. I believe that ALOC is now used for support of units overseas.

MR. CRIBBINS: I told you about the experience with Delta Airlines. One of the very first jobs that I had when I arrived back in T7 was given to me by a long time friend, Major General Russ Lincoln, who was one of the bright and shining lights in the Transportation Corps over many years. General Lincoln asked me to take a critical look since he knew about my air transport background, at aviation with regard to the future of an air line of communication. I did an evaluation and don't forget this was in 1961. The first of the Boeing 707s, as I remember it, landed in Europe in 1958, so that the jet age was just upon us. In looking at air transport, it struck me and was shared by other people, that what we were doing was unnecessarily restricting ourselves to terminals on the coast. You see, I had been at Brookley Air Force Base where we had supported North Africa, South America, and such. Brookley Air Force Base was selected as an air terminal because it was as close to those places as you

could get because of the legs of the aircraft involved. Travis Air Force Base was established for the same reason because it was a 2300 mile leg to Hawaii from the west coast. The same was true up north where the Air Force had McCord Air Force Base in Washington for supplying the northern routes. In each case, the Army, and I am not being derogatory about the Transportation Corps, placed the air terminals with the sea terminals. In this study, I asked the question, "Why don't we just disassociate the air and sea terminals? Why aren't we flying from air terminals from the middle of the United States, now that we have longer legs for aircraft? We could assemble people for example and even cargo in places that were contiguous to our units or depots rather than bringing them all into a seaport such as New York where I departed for Europe by ship in 1956 and returned on an aircraft in 1959. Believe it or not, I went to Korea during the Korean War in an aircraft. I told General Lincoln of my concern right away, and he started the ball rolling. It was just one of those evaluations that you make and it wasn't all my idea by a long shot. I listened very well and I had a lot of experience with air transport by that time. Don't forget this was 1961 and by that time I had been associated with air transport for 17 years so I wasn't

exactly a newcomer to this business. In looking at the ALOC, it struck me that we weren't using ALOC the way we should. I still remember how the Chicago Mail Order House competed with Sears Roebuck without benefit of having a depot. I couldn't understand why we didn't have more use of air transport. It always came to the question of what you could carry, but the real question was the cost of what you were carrying. The fact remained that we had an Air Force with military airlift command and we were going to have to exercise it. The Air Force was using them and the Army wasn't. The Air Force was using a log air system in the United States as early as 1954 which I told you about. The Navy had a quick trans system, but the Army wasn't doing any of this. I really couldn't understand why we weren't doing more of it. It just struck me that we were behind the times and not taking advantage of moving selected high value items and certainly more people. As you know, nobody goes by ship anywhere today. Everyone goes by air.

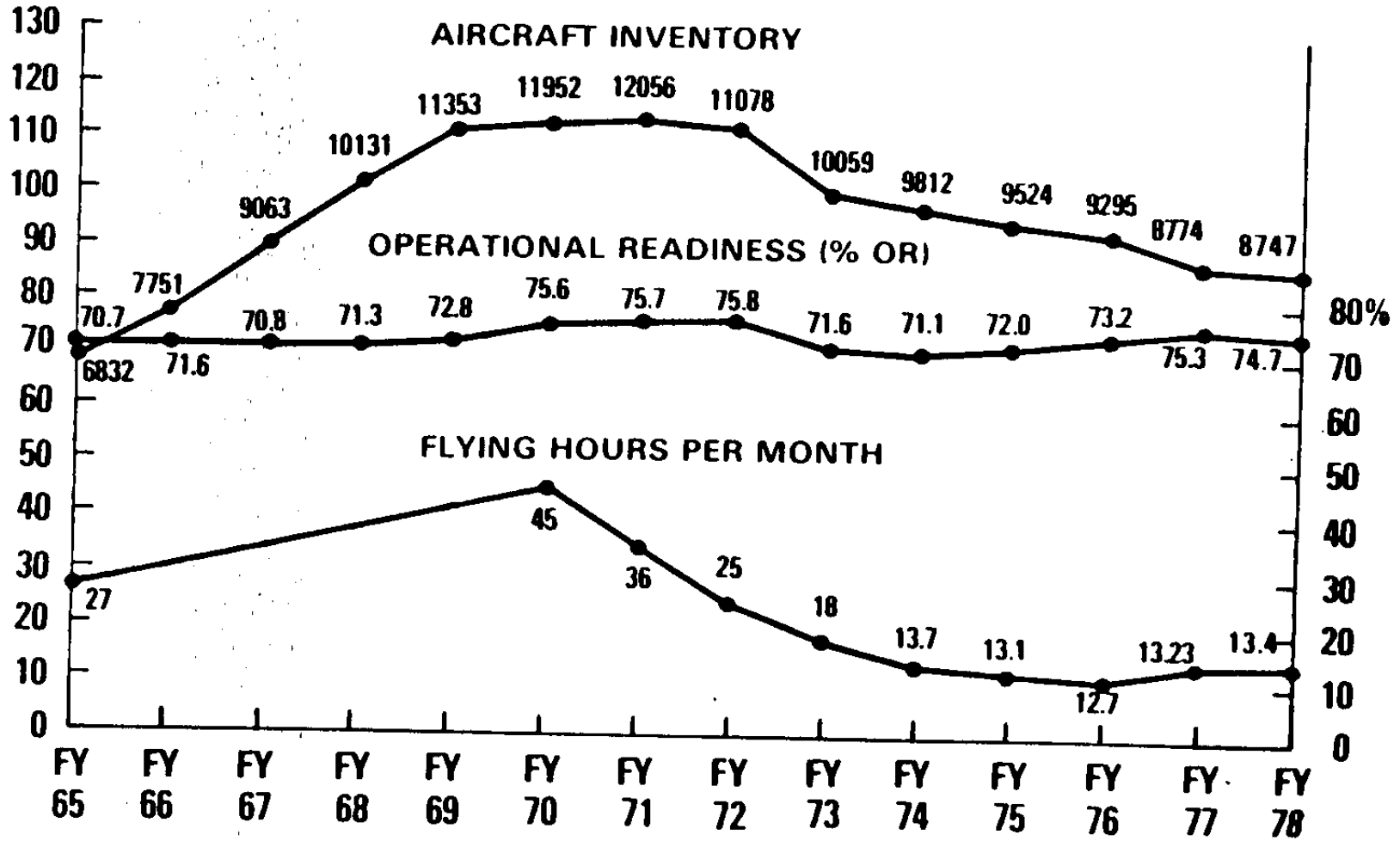
INTERVIEWER: I like your ideas. It seems as if you not only take those things that you see that will benefit the Army, but you happen to be at the right place to see those things carried out. It is not luck,

but there has to be a method to your success at getting things done.

MR. CRIBBINS: Let me put it this way. If I were to sum it up, and I do this when I talk to various groups about some of the initiatives we have had. Let me say that the driver above all else is being at the right place at the right time. For example, when I retired from the military, I had had an attractive career in the sense that I was an overaged Reserve officer. It is pretty obvious that I had no future in the military beyond age 52 when I would be forced to retire. I was hitting that age when I retired. I happened to be at the right place at the right time because Vietnam in 1966, when I retired, was warming up and General Besson asked if I would go to work for him as a civilian. I said, "I would love to." That is being at the right place at the right time. Getting the things done was the real secret in my experiences over the years. There was not just one thing, but imagination, innovation and a degree of optimism. I think I possess at least some of those traits. I think the important thing was reacting to an emergency. For example, it was essential to live with a six month engine pipeline instead of a 13 month one. The necessity of putting in

a KD Team to supplement maintenance and operational units in Vietnam was critical. The KD Teams were in being, I didn't design those teams. Just putting them in was the thing that made the difference. In each case, we had an emergency. When the response to the emergency worked, that became the normal way of doing business. That is the secret. I was not being smarter than anyone else. In Vietnam, we were faced with a helicopter war. We reacted to the emergency there and as I pointed out, improved readiness. I have a chart that I show on this. When that emergency worked, it became the norm. When it became the norm, everyone said "Boy, weren't they winners." Heck, we were just reacting to something that we should have foreseen in the first place and didn't. When we reacted to it and it worked, then it became the way of doing business.

INTERVIEWER: Sir, I'd like to make that chart an official part of this oral history. Before we get too far along with the Vietnam era, you mentioned earlier that you had worked with a Major, later retired General Richard Thompson on a project which I believe was related to the organization of the 1st Cavalry Division.


AIRCRAFT INVENTORY
6832
7751
9063
10131
11353
11952
12056
11078
10059
9812
9524
9295
8774
8747
OPERATIONAL READINESS (% OR)
70.7
71.6
70.8
71.3
72.8
75.6
75.7
75.8
71.6
71.1
72.0
73.2
75.3
74.7
FLYING HOURS PER MONTH
27
45
36
25
18
13.7
13.1
12.7
13.23
13.4
130
120
110
100
90
80
70
60
50
40
30
20
10
0
80%
70
60
50
40
30
20
10
0
FY 65
FY 66
FY 67
FY 68
FY 69
FY 70
FY 71
FY 72
FY 73
FY 74
FY 75
FY 76
FY 77
FY 78

MR. CRIBBINS: This was in either late 1963 or early '64 and I was Assistant for Tactical Air Mobility. In early 1964, we were putting together the 1st Cavalry Division which was then the 11th Air Assault Division. We didn't know it was going to become the 1st Cavalry Division nor did we know that it was going to Vietnam, at least not officially. We knew there was going to be an air mobile division and Vietnam was warming up. There wasn't any question about that, but we did not know that we were going to be sending any division over there certainly not an air mobile division. I went up to see General Rowney, who was still the Special Assistant for Tactical Air Mobility. Let me get this sequentially correct. In '62, General Rowney was in ACTIV (Army Concept Team in Vietnam). He later became Special Assistant for Tactical Air Mobility. I became Assistant for Tactical Air Mobility in ODCSLOG in January of '63. In 1964, I walked in on General Rowney and said,"In looking at the 11th Air Assault Division, they have 400 plus aircraft." In those days, they had some Mohawks in addition to the helicopters. I said, "They have done a great job in figuring out how they will logistically support a division within the division." I said, "One thing that really concerns me in looking at it is that I don't see any way that we

are taking into account the fact that here we have a division that is going to be highly mobile, use an awful lot of things such as POL and we have not made any provisions for supporting it from the rear. In other words, we do not have the air mobility from the rear that is comparable to the air mobility of the division which is capable of moving around and operating on a very wide front." He said "Well, I heard what you said, Joe. What do you think we need to do?" I said, "What I think we need is to come to grips with this and we must do it right away because we are about to put this division together and we better be prepared to do something with it. With the state of things in Vietnam, I think all of us would agree that the possibilities are pretty good that it will end in that direction." Without saying anything to me, he picked up the phone and called the Assistant DCSLOG, who was Major General Horace Bigelow. He said, "Joe Cribbins is here. He is telling me that we have a real problem and I agree with him. I would like you to listen to what he has to say and then let's talk and see what needs doing here." He said, "General Bigelow wants to see you right away, Joe." I walked down the hall to General Bigelow's office. He said in substance "Ok, old friend, you don't like the mess. Now, you are

the mess officer, what do you intend to do about it?" I said, "Well sir, this is July. The 11th Air Assault Division is coming on line with the final TO&E which we had been working on, but hadn't looked into logistics support from the rear." He said, "What do you recommend that we do?" I said, "Well, I recommend that we pull together a small, hard core team and get them out of the building and work on what the air assault division needs, what the distances are, what are the people and things that need movement, how we are going to get there and how we are going to support them." He said, "OK, Cribbins, you don't like the mess and you are the mess officer." I said, "One thing that I would ask is that you give me carte blanche on picking the people that I need so that I can have some quality folk. The other thing is that if we are going to get this thing done, in six to eight weeks max, then we need to get out of the building." He said, "Agreed, you've got it. Now, who do you want?" The first person that I asked for was Major Richard H. Thompson.
[End Tape C-218, Side 1]

[Begin Tape C-218, Side 2]

MR. CRIBBINS: There was a GS-15 (Jim Sales) who was with the Corps of Engineer and was going to do all of the air strip business for us. We got a lieutenant colonel from the Supply Maintenance Command headed by General Engler, who did a good job for us. We got a couple of other officers who I must say didn't contribute very much. We went out to the Research Analysis Corporation where they gave us space. The problem was that the Research Analysis Corporation didn't open up until 7 o'clock in the morning, but we could stay there until 10 o'clock at night while we put the program together. I had Major Thompson work all of the requirements. He was very well qualified to do that. This was all stubby penciled. We didn't have computers or things like that in those days. We fought the 11th Air Assault Division in Vietnam and in Laos. We put together a document titled "Systems Analysis: Air Lines of Communications." If I remember, it has either 395 or 495 pages. We put that together and General Thompson did all of the stubby pencil work. I had dinner with him the other night. We went back over what had happened during that time because he and his wife and my wife were there. We remembered so well. Here is the way that it worked. I know how I worked it and he worked it just about the same way. I would get

up about 4 o'clock in the morning and review what had gone on during the previous day at home. I would then grab a bite of breakfast and at 7 o'clock, I would kick off the team at the Research Analysis Corporation. We would work right through the day and go home by 8 or 9 o'clock at night and get something to eat. Then I would pile into bed. I am an early bird anyhow. For six weeks, we kept that kind of a schedule. General Thompson put together every one of those requirements with a stubby pencil for the division and two different operations and different engagements of active pursuit and defense. It was a very comprehensive document. I think one of the most amazing things about it was that I went to Vietnam and visited the 1st Cavalry Division in November '65 or there abouts when General Kinnard had the division. I compared notes and we were within 10 percent of those requirements that Major Thompson put together, of what that air assault division needed in combat. That was pretty good going for that kind of a study. Interestingly, in 1964, there were two nominees for the Pace Award which you are probably familiar with. I got the Pace Award in 1964 and the runner up was Richard H. Thompson. He has never let me forget that. Tommy did a terrific job on this thing. It was pretty evident then that he was going to go

places. He was a super, super logistician and a very hard worker. To this day, Pat said as hard as he has worked over the years, that she never remembered a time that he worked harder than he did during that six to eight weeks that we spent together on that project. The other night she reminded him that he had come out one evening when she was waiting for him with three small children and said, "I'll be right down." Then he went back and began to work and forgot about them. At 9 o'clock at night, she was still sitting out there with those three kids and she reminded him about that in no uncertain terms.

[End Tape C-218, Side 2]

[Begin Tape C-219, Side 1]

INTERVIEWER: It has been said that when you stovepipe a portion of the supply system it is an indication that the system is not functioning well. I note that the Aviation Intensively Managed Items (AIMI) Program grew out of our efforts during Vietnam. Why do we have an AIMI program? How well is it working today and do you consider it as effective as it was during the Vietnam era?

MR CRIBBINS: First let me address the word stovepipe. I think it is a misnomer when used in the context that we have stovepiped the system that is known as the Army Intensive Management Item or Aviation Intensive Management Item (AIMI). The word stovepipe connotes that you are taking a telescope, looking at one segment and treating that segment uniquely, usually creating problems or becoming a liability to the rest of the system. May I suggest that I think that the word stovepipe should not be applied to AIMI and to some of uniques things that we have done in Army aviation. Most of them were initiated because we had a 10 year war in Vietnam which in substance was a helicopter war. The term that really should be used is weapons system management. When we began AIMI in 1965, it was known as closed-loop support and all systems in Vietnam were then affected by closed-loop support. The idea of closed-loop support was that we would track items from production to the user, and then from an unserviceable status through the depot system and back to Vietnam. Aviation was just one part of that system because the other commodities and major weapon systems were involved. When the conflict in Vietnam ended, we took a critical look at the effectiveness of aviation logistics programs and we decided to continue them.

That included two elements; one is the Worldwide Aviation Logistics Conference. It is involved primarily with aircraft, the overall aviation system and some of the major Class VII components such as radios and armament systems. Then there is AIMI which initially covered two categories. Now we are looking at three categories which I will explain very briefly. Category 1 of AIMI is a critical item which is in such short supply that it is necessary to intensively manage that item to assure equitable distribution in accordance with the DAMPL (Department of Army Master Priority List). Number 2, and this is a new one that I think will certainly be required, is an item that has $2,000,000 in annual demands and is considered of high enough value so that it must be managed and negotiated at periodical intervals so that we know where the assets are. These items are not managed by serial numbers. The other part of AIMI is known as AIMI-X or Army Intensive Management Item-Expanded. I need to talk a little to this because I think this has been one of the bones in the throat as it were of the disclaimers about aviation having a stovepipe system. In the early '60s, I spent a year on a DOD study group that had Army, Navy, Air Force reps working under Mr. Ray Clarke, who was a super grade in the Office of the

Secretary of Defense. As I said before, we were originally chartered under Secretary McNamara's major issue, if I remember correctly, Project 35. We were chartered to take a critical look at how we would intensively manage high value aviation engines and components. We found that our charter was too comprehensive to be accomplished under the terms of reference and the time frame we were given so we focused on aircraft engines. I was a lieutenant colonel on that study group for about a year and we looked very critically at how the Army, Navy and the Air Force managed their engines. As a result thereof, we in large measure plagiarized the system used by the Air Force in reporting the management and control of their aircraft engines. From this, we developed a system in 1963 called the Engine Reporting System. That system accounted for location, condition and status or any changes thereof by serial number for all the aircraft engines in the inventory. Now by condition, we mean serviceable or unserviceable and by location we mean whether it was in a depot, a unit, in transit or wherever it was. Status meant whether it was a spare or installed. Please note that in this case we are managing installed engines individually just as we manage spares. That system was really quite

successful. I guess it actually began about 1962, if I remember correctly. We developed several products from that system. Those products allowed us to know where our engines were, how much life they had in them, whether they were new, overhauled, and how many flying hours or operational hours since new or overhauled. Although we did know calendar time as well, we were able to track them through pipeline. Interestingly, in the Air Force system, they had a rather simple card which is issued along with the engine. When an engine is removed from an aircraft and is nonrepairable at location, it is turned into an intermediate level for repair or to a depot. The Air Force indicates on that card whether they need a replacement engine or not. This becomes a requisition for a replacement engine. It is a very simple, but effective system. We tried to plagiarize the Air Force system because it was evident that they had a lot of experience and had, in turn, gained a lot of this experience using the commercial air lines approach in tracking engines. The Engine Reporting System worked, I would say quite well for about two to three years, but then we were accused of having a unique system. That seems to be a no-no as far as the Army is concerned. In other words, it is better to be standard than to be good. So we were told

that we could no longer keep the unique reporting system or even if it wasn't unique, at least the specific reporting system we called the Engine Reporting System. We had to incorporate that system with what was then known as The Army Equipment Reporting System, I guess it was, TAERS, which was a forerunner to today's TAMMS, which is The Army Maintenance Management System. As a result thereof, we lost visibility over the inventory because it was taken worldwide initially and then maintained through a logic sequence of tracking serial numbers. We were able to follow a serial number and if there was a disconnect with one of the serial numbers when it was reported, the computers we had in those days would kick out that serial number and we would be able to track it down and find out what had happened. For example, if we had an unserviceable engine that had been reported as nonrepairable this station, in a short period of time the next report reflected that engine as serviceable and installed some place, we would immediately be able to track it down. It was a logic sequence, it made a lot of sense and it kept us going. But, the important thing was you couldn't have a break in that logic or then you would have to go back out and take another inventory. Well, that continued until we lost the

system in 1964 or 1965. We then managed engines the way we managed our other high valued components. By 1965, we had the AIMI system and the closed-loop support system going. The AIMI system, while it was part of closed-loop, was initiated with a closed-loop concept. AIMI manages high value and selected critical components and just about all of the high value repairable's whether they were procurement appropriation, or PEMA as we called it then, or stock fund. The closed-loop support system which now is known as the Worldwide Aviation Logistic Conference manages end items or Class VII components as I said before. At the moment, we are treating AIMI as items which transit in and out depending upon criticality and the AIMI-X items, some 60 items costing $6,000,000 which consist of engines, rotor heads, transmissions. Those we manage by serial number are under the aegis of the program we call AIMI-X or Army Intensive Management Items-Expanded. The other element that I cranked in on the $2,000,000 demand is a new initiative. We think that it's going to pay a lot of dividends because we need to manage these items in such fashion so we know where they are and what the actual usage is, not simply the demand for these items. Let me explain very briefly how the AIMI program works. The AIMI and

AIMI-X programs, and I am talking now, AIMI itself which currently encompasses only those two elements. This is a system wherein the participating NICPs or major subordinate commands of AMC, AVSCOM, CECOM, MICOM, and AMCCOM commit that they will support the semi-annual negotiated levels of support for AIMI items. I think there is a very grave misunderstanding and allegations that have been made about AIMI such as AIMI is a check in the mail concept. In other words, you are telling the user, "Hey, buddy, you will be getting yours." Nothing could be further from the truth. For example, if we have an item that is a zero balance and we cannot negotiate a level and say to the user that we will support that level by a month for that item that the user needs. We do not put it in the AIMI program. We put it separately and manage it intensively using a coding system at the Aviation Systems Command. I'll talk to that because I know a lot more about AVSCOM's management than the management of the other MSCs although they participate in AIMI. What we do is to manage those items so intensively that we issue them on an "as required" basis. Now for AIMI, the levels are negotiated at AVSCOM twice a year for a week in February and a week in August. The preparation is intense and the people come in from all over the

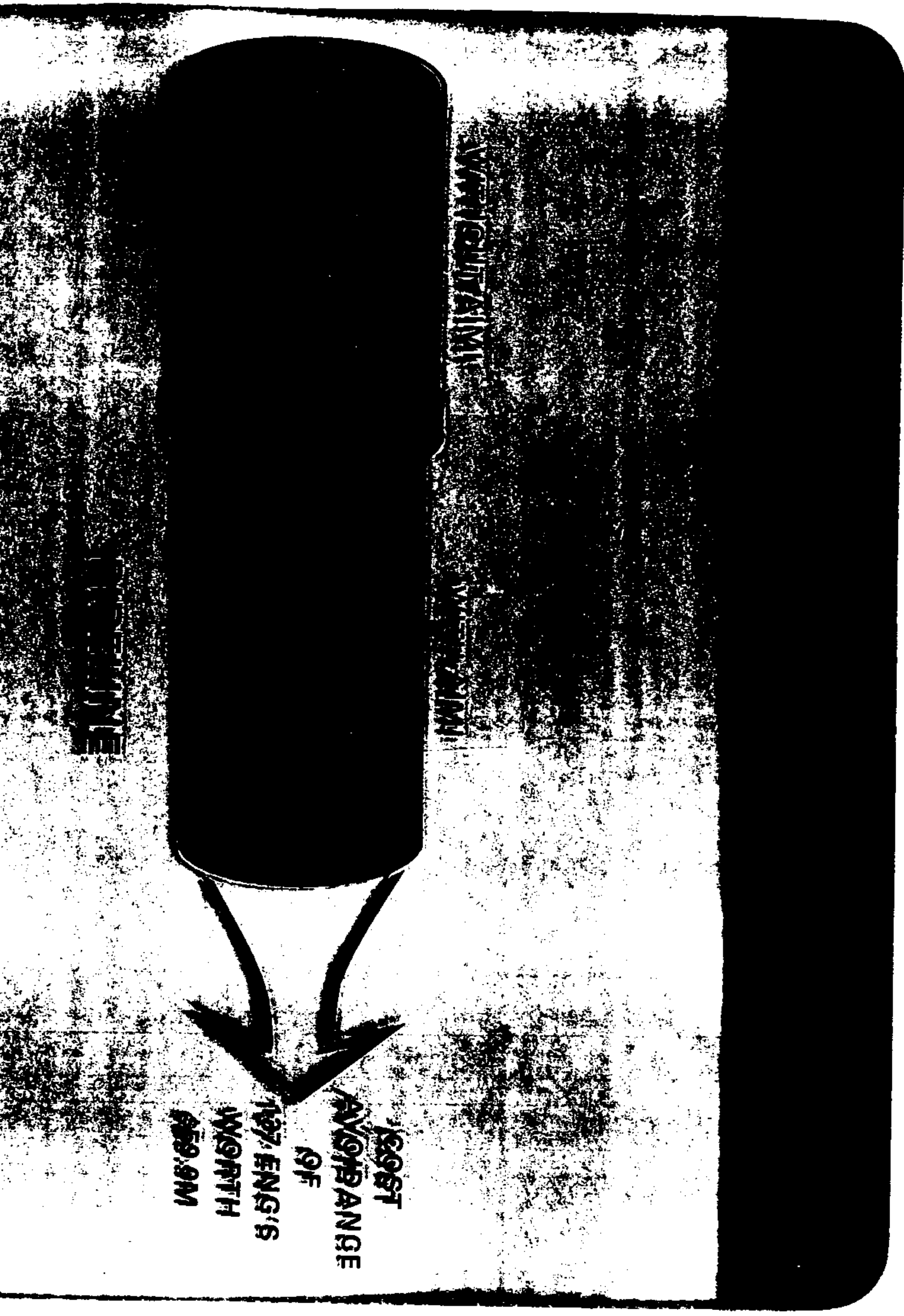
world who manage these items in the various commands. What we do then is to decide what items need to be AIMI and how we will manage them. We then look at demand and usage levels. In other words, negotiation goes something like this; the user may say, "I need 20 engines next month." The negotiator from AVSCOM would say, "Fine, you have been using 20, you have been turning in 20, I have 20 and you will get 20." Conversely, if the negotiator says for another item, "I need five of these each month for the next six months." Because you are really covering the next six months up front although you won't look out beyond the next AIMI planning meeting the negotiator and intensive manager from AVSCOM says, "Friend, I looked at what you have required. You have not used five per month nor have you turned in five per month. Somewhere out there are spares which I show as being in your inventory which you haven't used. Therefore, I am not going to agree that you need five per month." Then the negotiations start and they sort out where the inventory is between them. As a result thereof, they come up with, and I would say this, the understanding of how many of these particular items the user will need and will get. Here again, this is a commitment when the AIMI item is negotiated and it is decided that a command gets a

specific number of items per month. The command requiring an item requisitions 60 days, as I remember, before the month of anticipated need for the total requirement based upon the negotiated level. For overseas commands, the commitment is that the item will be delivered 30 days in advance. Items will be delivered 15 days in advance to units in CONUS. What you have done is cut down on the order and ship time at the negotiating level because under AIMI saying you will have an item on hand before it is required for consumption. That not only constitutes an order and ship time, but it also constitutes a safety level. If a command has an item on hand before the beginning of the month, that would be the same as having a safety level. There are quite a few things I am not going to try to address here. They are techniques that are used in AIMI. We have some AIMI items that we call safeguard. That means that we have enough supplies so that we could preposition those items in an overseas command so that when requested, the overseas command could get immediate delivery. There are other items which we call NMCS (not mission capable supply). That means that we are in such short supply and we will honor a requisition only for NMCS requirements. Our negotiations recognize this and the commands are told

not to requisition this item unless they have an aircraft down that would be NMCS or an anticipated NMCS as the result of having a TBO (time between overhaul) item the command knows that it has to remove at a designated time. As I said, some of those items that are in short supply are not put on AIMI. When the NICP does not have enough of an item to issue against monthly requirements, the item is not put on AIMI because AIMI is a commitment. AIMI is not a check in the mail!

INTERVIEWER: Two questions, sir. First, how many items are included in AIMI and secondly, have we really measured what impact AIMI has on readiness of the aviation fleet?

MR CRIBBINS: The number of items in AIMI will vary. The items that constantly remain in AIMI are, I believe, about 60 high value engines, rotor heads and transmissions. Those are the items that are worth billions of dollars of total inventory and are managed by serial number. Total number of items in AIMI including those critical items I believe is somewhere between 250 and 300. They bounce around somewhat and I am not sure how many items will be added as a result of


COST
AVOIDANCE
OF
ENG'S
WORTH
$59.9M

including the items with $2,000,000 or more in annual demand. Incidently, the items with $2,000,000 demand or more will be coded in two fashions. They must not only have the $2,000,000 in annual demand, but they must be repairable. They will be items that would ground an aircraft if they were unavailable. So I can't tell you how many items that will lead to, but now we are talking 250 or 300 items. It has gone over 300, but not greatly. We have found that if we get too many items in AIMI it gets tough to intensively manage them. AIMI, being a commitment, we make sure that the items that are placed in the program are available for that commitment.

INTERVIEWER: One final point, how would you say AIMI affects readiness?

MR CRIBBINS: From my view and I am sure that this is not a generally accepted one, I do find over the years that AIMI has improved readiness for aviation to a point that we would never realize if we didn't intensively manage with a system such as AIMI. There is no doubt in my mind that when you have critical items and you are looking at those items on the basis of actual usage or consumption with serviceable parts

going out and unserviceable ones coming back, the time in repair for the repairables the usage for the consumables, you're looking at usage rather than demand. When you're tracking items and negotiating multiple levels of usage with a high degree of accuracy, I do believe that you are significantly improving readiness across the board. We do negotiate. For example, in Vietnam we obtained the highest readiness when we had the highest flying hours in a combat zone and a very difficult area geographical and climatically. Yet we found that we were able to obtain the highest readiness while we were operating the most flying hours. To depart slightly, during the height of Vietnam there was a study by a major "think tank" here in the Washington area for the Secretary of Defense. I had a very bright young analyst with a PhD, who told me that he really couldn't understand why when we were flying the highest number of hours in Vietnam with helicopters, which were never really equipped to go there in the first place, we had the highest readiness. Well, I told him of the principles of supply, demand, high priorities and the fact that the concentration was on the war. I guess I talked about everything I could think of and somehow or another I wasn't successful to the degree that would really

convince him that the high readiness and the high flying hours in the combat zone were really consistent with one another and that we didn't have a disconnect. Finally I looked at him and said, "Let me tell you what I believe is probably very basic in addition to all the rest of the things that I have told you." I said, "Number one thing, a helicopter is designed to do only one thing in this world and that is to fly. On the ground it is a horrible looking mess. It doesn't transport worth a doggone on the ground and the one place it belongs is in the air. So therefore, when it's flying, it is doing what it was designed to do. It does that very well. What it doesn't do very well is take off and land nor does it do very well sitting around." I said. "Number two thing, while it is in the air, we can't screw around with it. The helicopter keeps flying because we let it fly and it is doing what it should be doing and the maintainers on the ground are not messing it up." With that he shook his head, but I think he came closer to understanding than he had with all the rest of the things I had been telling him.

INTERVIEWER: One other initiative that came out of Vietnam was the Closed-loop Support Conference that you talked about briefly. I guess it is now called the

Worldwide Aviation Logistics Conference. Tell me about its major thrusts and what it accomplishes over and above the semi-annual AIMI conferences?

MR CRIBBINS: The Worldwide Aviation Logistics Conference began in January 1967 with the first one being held in Hawaii. That was my first year as a civilian since I retired in June '66 and came on board in the Pentagon in January '67. The purpose was to manage the aircraft from production to Vietnam and return them back to depots for crash metal damage or major repair. We continue that program, but interestingly the first two sessions that we had were in Hawaii. It took two weeks and about 150 people. I did not attend the first one because I was putting the office together back here at the time. (The office that became the one I have today was formed in January 1967.) The second one was held in July 1967 and I did participate. I decided that the next one we had, and we were holding them at six month intervals, we would have it in St. Louis for a couple of reasons. I found that of the 150 people, not all of them were attending all the sessions. It appeared to me that we were spending an enormous amount of time on the beach so the next one I held in St. Louis. We had, I think, 55

people at the meeting and it took one week to do what it took two weeks with 150 people to do in Hawaii. A lesson learned, don't go to Hawaii to hold a conference if you want to get it done effectively and efficiently. At any rate, we continued on a six month intervals until the end of Vietnam. It worked out very, very well. The important thing, I think I need to get over here, is that units in the field do not requisition aircraft the way they requisition other items. They are authorized by TO&E's or TDA's and distributed through allocation. The DCSOPS serves as the prioritizer for operational requirements of the Army. The DCSLOG serves as the supporter of the Army with responsibility for distribution in accordance with the established priorities and capability to distribute. So between OPS and LOG, we come up with the requirements and then we sit down and go over our programs in detail to determine how many aircraft we had coming out of production or how many we had out in the field. We know where all our aircraft are because we have had a reporting system since 1963-1964. It accounts for every aircraft by serial number, condition, location and status. We pull our teams in on a Sunday, get them prepared and start off on a Monday morning with the Worldwide Aviation Logistics

Conference. Monday and Tuesday, we do an up front program of teams working on each major aircraft as a total weapon system with participants from the major commands and NICP who are knowledgeable about a given system. We look at armament systems, avionics systems and other items of interest that have been proposed by the user. On Wednesday morning, I will chair the Senior Officer Review Council which reviews each one of the team's work, in other words, by aircraft as a weapon system. The Senior Officer Review Council is at O-6 level and we look very critically at what the teams have come up with and either agree or have the teams go back and redo their work. That goes on all day Wednesday and we work into the night and then start out again on Thursday with the objective of wrapping up the first go around for each team by Thursday morning. During Thursday afternoon, we go back over each one of the programs to pick up the changes we made so that on Friday morning we have a General Officer Review, which I also chair. That General Officer Review then takes a look at the total program and from that we develop a book that covers each one of these systems of what is expected to happen for the next four years as we see it. The first year, I would say, comes very close to being executable. The second year and on out becomes a

plan. We look at production schedules, overhaul schedules, what is on hand, where the aircraft are and all the rest of it. We forecast the number of aircraft coming into depots, estimate how many crash/materiel damages we will have and what attrition rates we'll have. We look at all of these things and as a result thereof, we have a very definitive program which gives us a good indication of what's going to happen for the next four years, especially, as I say, up front for the next year.

INTERVIEWER: Sir, the major commands are represented plus you've got ODCSLOG represented. What other agencies attend the conference?

MR CRIBBINS: We have all the Army MACOMS represented as well as ODCSOPS, ODCSPER and now SARDA. The final findings of the General Officer Review are contained in a report that I mentioned earlier and is chopped off by all the participating commands and approved at Headquarters DA.

INTERVIEWER: Before I discuss the Aviation Logistics Office which you now head, I would like to go back and talk about the time frame that you retired back in

1966. I guess you and General Besson linked up again and you became a consultant for him while he was the Commander of AMC. Would you talk about the events leading up to your retirement and also your work as a consultant?

MR CRIBBINS: I was sure I would not appear in the zone for colonel by the time I reached 20 years. I had decided by 1965 that I really needed to take a critical look at retiring when I had completed 20 years and establish what I would do. Also, there was an absolute that I would have to retire at the age of 53 as a lieutenant colonel. Had I completed 20 years by age 52 and then become a colonel, I would have had to retire at age 55. Since I was approaching my 52nd year rather rapidly, I decided that I would retire when I reached 20 years. General Besson with whom I had been associated from the time that I had left Europe in 1959 was responsible for my being in Washington and responsible in large measure for my being over in the Pentagon. I had worked very closely with him all the time I was in the Pentagon. He had asked me to talk with him before I decided what I was going to do. In April 1966 I went to see General Besson and he asked me what I intended to do. I told him I was going to

retire and he said, "What do you plan to do?" I said, "Well, frankly, I have been too busy with Vietnam and other things to worry much about that." Well, I said, "I am going to have to come to grips with it come June because I was going to hang it up on 30 June 1966." He said, "How would you like to come to work for me?" I said, "Well, that sounds interesting." He looked at me with a big grin and said, "Tomorrow?" I said, "I'm sorry, sir, but I do have to complete 20 years and I won't complete 20 years until 30 June." And he said, "Well, all I am saying, Joe, its tomorrow, next month, 30 June, whatever." I said, "Well, sir, I certainly would like to give it a try." So he sent a memorandum to Mr. Resor, Secretary of the Army, asking for a waiver on my having to wait six months before I could be reemployed as a civil servant because I had knowledge of aviation which was critical to support in Vietnam. Secretary Resor agreed so I retired on 30 June and left the office at 5 o'clock on that day and reported to General Besson the next morning at 8 o'clock as a civil servant. I became his special assistant until January 1967 when General Abrams formed this Special Aviation Office in the Pentagon which became known as the Office of the Special Assistant for Logistical Support of Army Aircraft or OSALSAA.

INTERVIEWER: So what did your duties entail as a consultant for General Besson?

MR CRIBBINS: Well, I was doing the same thing for General Besson that I had been doing as a soldier. I was supervising overall aviation programs especially those in Vietnam. In fact, during the period between the time I retired in June and when I actually came back to the Pentagon as a full time civil servant, I was working as a Special Assistant with carte blanche from General Besson to do whatever needed doing. I came back to the Pentagon at least twice to brief the Chief of Staff, General Harold K. Johnson, worked with the Army staff and developed a line of balance type of management device for use in aviation. I followed up on the Air Vietnam project that I had been doing while in the military. Basically, I found that I was doing very much as a civilian working for General Besson as I had been doing while working in the Pentagon for the Special Assistant for Army Aviation.

INTERVIEWER: You are now the Special Assistant to the DCSLOG and the Chief of the Aviation Logistics Office. You said earlier that this office was formed in 1967 and has gone through several changes. I would like for

you to discuss your organization, its structure, its roles and missions as they have evolved over the past few years.

MR CRIBBINS: When I first came on board I believe it was 5 January 1967, I was on a special study group. This was another thing that I had been doing for General Besson. It was a special study group that was looking at intensive management of aviation systems in conjunction with the other services. Again, I was representing both General Besson as Commander of AMC and Headquarters Department of the Army. I was in Philadelphia with this Army, Navy, Marine Corps and Office of the Secretary of Defense group working on this study. Well, the group was taking a critical look at how all the services manage their aviation program to take advantage of each of the other. I was recalled to the Pentagon when General Abrams decided to set up this special office in ODCSLOG to intensively manage aviation. Incidently he did not call it stovepipe. He called it intensive management and the special assistant's office was established for that purpose. So I was brought back and given the job of putting together a charter in conjunction with the Office of the Chief of Staff Army and representatives from the

other ARSTAF agencies. The charter was chopped off by General Abrams and I became the Deputy as a civilian at the equivalent level of GS-15 because I did not get my civilian status confirmed until May 1967. We set this office up and our job was to see that the aviation programs worldwide, especially in Vietnam, were properly and intensively managed to keep readiness levels high and support the war effort in Vietnam. In putting together the initial charter, it was based on what I had been doing as Special Assistant for Tactical Air Mobility when I was in uniform at ODCSLOG, with some expanded roles and missions. We added a weapons systems manager for each major weapons system; for the Huey, the OH-6, OH-58, and the CH-47. Each aircraft system had its own manager as well as managers for avionics and for armament systems. We established two branches. I had a deputy who was a colonel and a lieutenant colonel was in charge of each branch with the appropriate administrative support. I remained the deputy at that time while they were looking for a general officer to run the office. General Jack Klingenhagen, who was then a Brigadier General working for General Besson over in AMC in research, development and acquisition became the first officer in charge of OSALSAA and remained in charge until December 1967.

General Engler called me in and said that in looking at the way the office was running, the experience and the need for general officers elsewhere that he was giving up a general officer's space to make the Chief of OSALSAA a civilian super grade.

[End Tape C-219, Side 1]

[Begin Tape C-219, Side 2]

MR CRIBBINS: He asked me if I thought I could do the job and how I felt about it. I said I thought it was a real challenge and the answer was yes. I believed that I could do it and I would be very pleased to take over. So General Engler made me Chief of OSALSAA, assigned General Klingenhagen to the Supply and Maintenance Directorate where they badly needed a general officer. Well, the office continued through 1968. At that time, I told General Engler that the Special Assistant title didn't lend enough clout to what we were really charged with doing and that was management of Army aviation. So we changed the name, the missions and functions of the office to make that the Office, I'm trying to think of the name or remember the name after all these years, "Aviation Logistics Management Office." It became

Aviation Logistics Management Office and remained that way and I remained at the GS-15 level although the position was authorized a supergrade. When General Engler was about to retire, he made a real issue of getting me a supergrade rating which he managed to do in August 1969. General Engler was replaced by General Heiser. I had worked for General Heiser when he was the ADCSLOG for Supply and Maintenance in DA, ODCSLOG. In the interim, he had been in Vietnam as a two star commanding the First Log Command and came back to become the DCSLOG of the Army. I told General Heiser that I would understand if he did not want to continue the aviation intensive management program the way it had been done. To my everlasting surprise, General Heiser said, "You aviation folk are way ahead of the rest of them. You just stay out there and I will support you." He then proceeded to make the office a directorate at which time he also gave us the responsibility for the acquisition of aviation. So for General Heiser's tenure from about September or October 1969 until December 1971, when he was replaced by General Kornet, this office was the Directorate for Aviation Logistics. I had the title of Director and I had support as well as acquisition of Army aviation which had previously been the responsibility of the

Director of Materiel Acquisition. That lasted until the war was over and General Kornet came on board in early 1972. There was quite a cutback in spaces and General Kornet said that he was going to move acquisition back into the Materiel Acquisition Directorate and felt that we were going to have to be reorganized. With Vietnam emphasis declining, the reason for having 25 people, I think that was how many we had at the time, had disappeared. General Kornet asked what did I believe we should do? I said, "I thought that we ought to continue intensively managing aviation." General Kornet agreed with that. He had just commanded AVSCOM so he had been well versed with the problems associated with aviation which were different from the other weapon systems in the Army. When he came on board, he gave me an open-ended wish list of what we should do with the office. I finally went back to him and said, "I thought that we could do two things. I thought that the number one thing if I were to be effective, was to report directly to him and not to one of his directors or to the ADCSLOG because the latter changed quite frequently. I thought the continuity of reporting to the DCSLOG was very important. The number two thing was that if I could retain a hard core of people that, at least on an

interim basis, we could phase down what we were doing so that we would move acquisition back into the Acquisition Directorate and then phase the office down." He agreed with that. I guess we phased down to about 10 or 11 people who were looking critically at the support of Army aviation and managing the AIMI program, in those days known as Aircraft Component Intensive Management System. That lasted through General Kornet's tenure, I guess about two and a half years, when he was replaced by General Fuson. By that time, General Kornet and I had agreed that we could bring the office down because we were losing many, many missions and functions especially spaces in ODCSLOG over that period of time. In fact, at its peak, DCSLOG ran from 1100 to 1200. Today they are down to 300 so it gives you an order of magnitude of the reduction in ODCSLOG itself. We finally arrived at the conclusion that I would be Special Assistant to the DCSLOG and Chief of the Aviation Logistics Office, which authorized a total of three people besides myself. Subsequently, we got a fourth and a fifth person and now we have grown back up to six people including the secretary. During General Kornet's tenure, which went from '72 into late '74, there really hasn't been any major change in the missions or functions of this

office. However, there have been changes in my job as Special Assistant depending upon the DCSLOG's personal desires, but the aviation logistics responsibilities have remained pretty much as is.

INTERVIEWER: Sir, two things. First, could you go into a bit of detail about the critical things that the Aviation Logistics Office was involved in, and secondly, what were some of the things you accomplished as the Special Assistant to several DCSLOGs?

MR CRIBBINS: Yes. During the time of Vietnam it was a case of not only being Special Assistant to DCSLOG, but also being Special Assistant for Aviation Logistics to the Chief of Staff of the Army and the Vice Chief of Staff. As Special Assistant and in charge of the Aviation Logistic Office, we did several things. We took a critical look at the supply concepts. AIMI was initiated in 1965. We brought the engine reporting system back on line in February of 1967, managing T-53 and T-55 engines by serial number. That eventually grew to engines, rotor heads and transmissions which exist today in the current program known as AIMI-X. We really refined AIMI. We were driving these programs from the Pentagon and working very closely with some

superb associates out at the Aviation Systems Command. We revised our maintenance concepts as I mentioned earlier. Adding KD Teams to operating units in Vietnam made those units pretty self sufficient in order to do the inspections and do all the maintenance necessary to keep aircraft flying in a tough environment. I would like to emphasize that in Vietnam where we had been flying a maximum of 20-25 hours a month, we were able to increase flying hours up to 140-150 hours a month per aircraft. The important thing we did here was to move some 70 percent of what was known as direct support, from direct support backup, right into the operating unit, and gave the operator the capability to maintain his own aircraft in accordance with his needs. I think one of the most important things, and I guess General Abrams said this better than anyone else, is that you were able to turn to the commander of an operating unit and say to him, "Alright, you have a mission. You've got a flying hour program, operational tempo or a readiness goal to meet, and I have given you the wherewithal to do all of that. It is up to you to execute." The commander cannot turn and say to someone else, "Friend, I have just flown my mission, now you take care of my aircraft." In this case you were saying to the operator you have both an operational and

maintenance capability and this worked great. We added about 175 people when we reorganized the 1st Cavalry Division for support of 400 aircraft. We attained an increase in readiness across the board of about 20 percent per aircraft in the division as a result of this realignment. But more importantly, we increased the readiness from somewhere around 55-60 percent to 75-80 percent and we raised the flying hours by 25 hours per aircraft a month across the board under the division. I don't need a cost effectiveness analyst to tell me that this paid dividends. This became the way of life in Vietnam. I really have to say that I would have to attribute the fact that we got there from here to the drive and the direction of both General Johnson and General Abrams. General Johnson was Chief of Staff until the summer of 1968. General Abrams was the Vice Chief until the spring of 1967 and then Deputy COMUS MACV until the summer of '68 and ultimately the COMUS MACV. We talked about this next program of looking at different maintenance concepts when I was still in uniform and was carrying the action here. I trust that this doesn't sound self-serving, but interestingly, the three-level maintenance concept came out of this office. I have to attribute that to the finest group of young officers I have ever seen in the Army. I told

them what needed doing and then turned them loose. I guess if there is any management technique I've learned over the years, it is if you're in the position, of course, get the best officers you can find. When you get them, bring them on board with the full understanding that they are on their own. You give them full authority to act and speak for you as long as they keep you advised with no surprises. I find over the years that if you stick with that sort of a management philosophy, it is amazing what you can get out of these fine young people. There is the real secret for whatever we accomplished.

INTERVIEWER: I am curious as to why we went to three levels of maintenance or what is now called aviation unit, aviation intermediate and depot maintenance. There has been recent discussions of the possibility of going to two levels of maintenance. I guess by the turn of the century we maybe looking at a throw away maintenance concept.

MR CRIBBINS: Yes. I explained to some degree that about 70 percent of the direct support (DS) maintenance we moved into the operational unit into what we called unit maintenance. Incidently, it was interesting as to

how we wound up with the term AVUM (aviation unit maintenance). Initially we called it integrated direct support maintenance, which is what it was. When General Heiser came back from Vietnam and became the DCSLOG of the Army, I brought up the subject of integrated direct support maintenance. General Heiser really came on like gang busters. He said, "Joe, this really gives me a problem, not a problem with what you are doing, but the way we say what we are doing. I have been telling a lot of the people out in the field that we have been moving too much maintenance forward and that we should move it back. Here you're talking about integrating direct support maintenance and I agree with it for aviation. I don't agree with it for some of the other commodities." So as a result, instead of integrated direct support maintenance, we called it aviation unit maintenance. But having moved 70 percent of the direct support forward, we also took a look at what was happening to the general support maintenance. In Vietnam we found that a large percent of general support maintenance was coming back to the depot because we were asking the units in the field to do more in combat than they were able to do. We never had the correct skill levels, tools, equipment, facilities, time etc., you name it, to do all the

things that the maintenance allocation charts required of them. Consequently, what we were doing was leaving a lot of unserviceable items out in the field when we should have been bringing them back to the depot. Having looked at that, I recognized that about 70 percent of DS had moved forward and maybe 60 percent of GS had moved back. Then came the big question of why do we need DS and GS units in the field? Plagiarizing to some degree the Air Force and the Navy systems, we then came up with an intermediate maintenance concept which we implemented. We ran a study out of this office. We contracted out and had support out of the TRADOC community and the Aviation Logistics School down at Fort Eustis and came up with the three level of maintenance concept which was approved. I also have to give credit to General Bonesteel in Korea. In one of my trips through Korea and looking at DS and GS units there, I found that the same thing was true in peacetime or wartime. I said to General Bonesteel, who was then the CINCUSFK, that I found the DS units were getting items that they believed belonged in GS or in the operational unit. DS units would transfer the parts down to the operational unit or back to the GS unit. When I got to the GS unit, I found that it was getting items that should have been maintained at DS or at

depot level and was transferring items back and forth. I guess I facetiously said that maybe we ought to put blanket TDY orders on some of these components the way they were moving in and out of units. General Bonesteel's comment when I said that I thought what should be done was to integrate the DS and the GS into a single intermediate level was, "Joe, I think that what you are saying makes so much sense it is going to be extremely difficult to do, but we will go ahead and give it a try." He gave it a try and the honest to goodness implementation of the three levels of maintenance was accomplished in Korea with the establishment of the 45th Aviation Maintenance Company. It integrated the DS and GS companies that had existed before to make an intermediate maintenance company. While I am on the subject, if I had to do it over again, I would have called it aviation user maintenance. It is user maintenance in the sense of what we are trying to do. We'll talk a little bit more this when we talk about two levels of maintenance. We were trying to dedicate maintenance to the user and make sure that the user was supporting the aircraft as a weapon system not supporting the supply system. To the degree possible, users did the maximum amount of on equipment maintenance, but maintenance that had to be

done off the equipment was accomplished at the intermediate or at the depot level.

INTERVIEWER: We are now looking at a concept called two levels of maintenance which is aviation user and depot maintenance thus eliminating the intermediate level.

MR CRIBBINS: The two level maintenance concept has received a lot of publicity with the advent of the LHX and thrust in the LHX concept that will make it a two levels of maintenance for aircraft. That is, design the aircraft for two levels of maintenance from the initial design, development, testing, procurement, production and eventual fielding. However, I say that it has a lot of publicity, but two levels of maintenance for some aircraft systems has been around to a degree for quite some time. For an example, operational units for the CH-54 Crane were so designed that we never did any intermediate maintenance work on a crane since we have had them. However, we only had 90 cranes initially and we have 72 of them now. We gave the operational units the capability of doing all the maintenance on the crane that was required in the field. What couldn't be done in the field was done

under contract at depot level. To some degree, the same thing is true for the CH-47. The CH-47 is a very complex helicopter and requires some AVIM)Intermediate Level) maintenance, but practically all that is associated with the air frame consisting of the sheet metal work rather than the components and the engines. Otherwise, what isn't done at the AVUM level the way we were organized under the old "H" & "J" series TO&E, was sent back to the depot. So we still have a two and one-half level of maintenance for these aircraft. Now in our concept for the LHX, we are looking at a capability at the user level. I will emphasize it is aviation "user" level rather than "unit" level, of doing all of the diagnostic, prognostic and on equipment maintenance work that an aircraft needs. What is taken off the aircraft then will be sent to another level to be repaired. That other level of maintenance would be depot. Now this doesn't mean that the depot level has to necessarily be in CONUS nor does it mean that it needs to be green suit. It could be contiguous to where the aircraft is located, off shore or in CONUS if need be. Although in CONUS with all our transportation capabilities, I would suggest that the depot could be located wherever most resource effective. It could be a total contractor operation or

a combination of contractor and AMC-run operation. What we are looking for when major components have to be maintained, and I want to emphasize the word maintain is an intermediate level of supply. Under our concept, maintenance would be done at depot level and that would take care of the two levels of maintenance. However, we must recognize that in order to do this it requires an extremely responsive pipeline for supply and support that will allow us to be parts changers based upon good diagnostics and prognostics on the aircraft at the user level. Therefore, I firmly believe that we need an intermediate level of supply. That intermediate level of supply will not help to maintain or repair the components that pass through it whether they happen to be mission equipment packages, engines, transmission or any other repairable components of the aircraft. The intermediate level will stock, store, issue and provide an upper level of diagnostics for those items that are removed from the units and make sure unnecessary returns do not get back to the depot. It would also be a responsible source of replacement parts needed under a throw away concept that we expect to use at the user level for the LHX. That, in my view, is truly what we are talking about in two levels of maintenance. Now one of the facts to

recognize in doing this will be that when the LHX comes on line, we will still have aircraft that are being maintained under the three levels of maintenance system. I think we need to relook at some of the things that we are trying to do in the field. For example, as recently as three years ago, I was in Europe and found that we had about 50 people in an intermediate maintenance unit that were trying to accomplish electronic avionics repair and maintenance. At the same time they were doing this, we had a contractor doing phase maintenance on Chinooks in another intermediate maintenance facility because we did not have the green suiters to do phases on the Chinook. Now the phase is "on equipment maintenance" that should be done by the user in operational units. The electronic avionics is the sort of thing that could be done best by highly skilled contractors or green suiters at a fixed facility. Intermediate maintenance units should have been doing the Chinook phases and the contractor should have had highly skilled people doing electronic avionics maintenance. These are the kinds of things that we have to clean up. I know our maintenance concepts must support the Army of excellence initiative and progress toward a two level concept of maintenance.

INTERVIEWER: Would you discuss the role that contract maintenance played in support of Army aviation in Vietnam? Secondly, where does contract maintenance fit into today's logistic support scheme for Army aviation?

MR CRIBBINS: Okay. We could not have existed in Vietnam without contract maintenance. At the height of Vietnam we had about 4,000 helicopters and about 400 fixed wing aircraft there. We had about 2,000 contract people in Vietnam who did all kinds of things for us. Initially we had one contractor, but later we had three. These contract folk were well versed. They did all kinds of jobs. I don't think that there was anyone who came out of Vietnam with any experience in aviation who was not a firm believer that contractor support was the way to go. They stayed on line with the operational units with very few exceptions. We found that they proved to be well skilled, reliable and above all else, able to dedicate fully their time to maintenance support. One of the major problems we run into with green suiters maintenance was the utilization rates that run something like 25 percent to 30 percent max. For a 40 hour week, that means that you are getting somewhere between 10 and 12 hours of work from

soldiers in their primary skills. With a contractor, you can obviously work them full time. So where are we in contract maintenance? I guess I would quote General Otis and I don't think he minds being quoted on this. I am trying to remember as best I can of what he said to me about three years ago when I was in Europe. He said, "Joe, we have always had, you know from your experience and I know from mine, contract maintenance in any war. I am really convinced that in the next war we will have more contract maintenance than any of the past wars." When I look at the complexity of equipment, the necessity of having people who know how to maintain this equipment and having them fully dedicated to support this high tech equipment that we are fielding, I am convinced that contract maintenance is the way of the future. We are now using contract maintenance to a considerable degree with the Black Hawk and the Apache having full time depot level contract maintenance for the first three to four years of the system being fielded. Right now, at our single site training for the Apache in Fort Hood the intermediate level of maintenance is being performed by a contractor. In Europe, we have just let a contract for airplanes and engines. We have been using contract teams for aircraft condition evaluations. Incidently